

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10577094	
	Filing Date		2006-04-26	
	First Named Inventor	Dietmar KRAUTWURST		
	Art Unit			
	Examiner Name	Sandra Wegert		
Attorney Docket Number		102790-211/30246US		

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/Sandra Wegert/

09/28/2009

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1	Szekeres PG. Functional assays for identifying ligands at orphan G protein-coupled receptors. Receptors Channels. 2002;8(5-6):297-308	<input type="checkbox"/>
2	Wilson S, Bergsma DJ, Chambers JK, Muir AI, Fantom KG, Ellis C, Murdock PR, Herrity NC, Stadel HM. Orphan G-protein-coupled receptors: the next generation of drug targets? Br J Pharmacol. 1998 Dec;125(7):1387-92	<input type="checkbox"/>
3	Shaaban S, Benton B. Orphan G protein-coupled receptors: from DNA to drug targets. Curr Opin Drug Discov Devel. 2001 Sep;4(5):535-47	<input type="checkbox"/>
4	Joost P, Methner A. Phylogenetic analysis of 277 human G-protein-coupled receptors as a tool for the prediction of orphan receptor ligands. Genome Biol. 2002 Oct 17;3(11):RESEARCH0063.	<input type="checkbox"/>
5	Vassiliatis DK, Hohmann JG, Zeng H, Li F, Ranchalis JE, Mortrud MT, Brown A, Rodriguez SS, Weller JR, Wright AC, Bergmann JE, Gaitanaris GA. The G protein-coupled receptor repertoires of human and mouse. Proc Natl Acad Sci USA. 2003 Apr 15;100(8):4903-8. Epub 2003 Apr 04.	<input type="checkbox"/>
6	Lucas KA, et al. Guanylyl Cyclases and Signaling by Cyclic GMP. Pharmacol Rev. 2000 Sep;52(3):375-414.	<input type="checkbox"/>
7	Gibson AD, Garbers DL. Guanylyl cyclases as a family of putative odorant receptors. Annu Rev Neurosci. 200;23:417-39.	<input type="checkbox"/>
8	Matsunami H, Amrein H. Taste and pheromone perception in mammals and flies. Genome Biol. 2003;4(7):220. Epub 2003 Jun 30	<input type="checkbox"/>
9	Dulac C, Torello AT. Molecular detection of pheromone signals in mammals: from genes to behavior. Nat Rev Neurosci. 2003 Jul;4(7):551-62.	<input type="checkbox"/>
10	Koshimizu TA, et al. Recent progress in alpha 1-adrenoceptor pharmacology. Biol Pharm Bull. 2002 Apr;25(4):401-8.	<input type="checkbox"/>
11	Araneda R. C., Kini A. D. and Firestein S. (2000) The molecular receptive range of an odorant receptor. Nat Neurosci. 3, 1248-55.	<input type="checkbox"/>

REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /SLW/

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12	Bakalyar H. A. and Reed R. R. (1990) Identification of a specialized adenylyl cyclase that may mediate odorant detection. Science 250, 1403-6.	<input type="checkbox"/>
13	Baker H., Cummings D. M., Munger S. D., Margolis J. W., Franzen L., Reed R. R. and Margolis F. L. (1999) Targeted deletion of a cyclic nucleotide-gated channel subunit (OCNC1): biochemical and morphological consequences in adult mice. J. Neurosci, 19, 9313-21.	<input type="checkbox"/>
14	Belluscio L, Gold G.H., Nemes A. and Axel R. (1998) Mice deficient in G(olf) are anosmic. Neuron, 20, 69-81.	<input type="checkbox"/>
15	Bozza J., Feinstein P., Zheng C. and Mombaerts P. (2002) Odorant receptor expression defines functional units in the mouse olfactory system. J Neurosci, 22, 3033-43.	<input type="checkbox"/>
16	Brunet L.J., Gold G.H. and Ngai J. (1996) General anosmia caused by a targeted disruption of the mouse olfactory cyclic nucleotide-gated cation channel. Neuron 7, 681-93.	<input type="checkbox"/>
17	Buck L. and Axel R. (1991) A novel multigene family may encode odorant receptors: a molecular basis for odor recognition. Cell, 65, 175-87.	<input type="checkbox"/>
18	Bufe B., Hofmann T., Krautwurst D., Raguse J.D. and Meyerhof W. (2002) The human TAS2R16 receptor mediates bitter taste in response to beta-glucopyranosides. Nat Genet 32, 397-40.	<input type="checkbox"/>
19	Chandrashekar J., Mueller K.L., Hoon M.A., Adler E., Feng L., Guo W., Zuker C.S., and Ryba N.J. (2000) T2Rs function as bitter taste receptors. Cell, 100, 703-11.	<input type="checkbox"/>
20	Chess A., Simon I., Cedar H. and Axel R. (1994) Allelic inactivation regulates olfactory receptor gene expression. Cell, 78, 823-34.	<input type="checkbox"/>
21	Choi E.J., Xia Z. and Storm D.R. (1992) Stimulation of the type III olfactory adenylyl cyclase by calcium and calmodulin. Biochemistry, 31, 6492-8.	<input type="checkbox"/>
22	Crider J.Y. and Sharif N.A. (2002) Adenylyl cyclase activity mediated by beta-adrenoceptors in immortalized human trabecular meshwork and non-pigmented ciliary epithelial cells. J Ocul Pharmacol Ther, 18, 221-30.	<input type="checkbox"/>

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23	Dhallan R.S., Yau K.W., Schrader K.A. and Reed R.R. (1990) Primary structure and functional expression of a cyclic nucleotide-activated channel from olfactory neurons. <i>Nature</i> , 347, 184-7.	<input type="checkbox"/>
24	Duchamp-Viret P., Duchamp A. and Chaput M.A. (2000) Peripheral odor coding in the rat and frog: quality and intensity specification. <i>J Neurosci</i> , 20, 2383-90.	<input type="checkbox"/>
25	Dzeja C., Hagen V., Kaupp U.B. and Frings S. (1999) Ca ²⁺ permeation in cyclic nucleotide-gated channels. <i>Embo J</i> , 18, 131-44.	<input type="checkbox"/>
26	Finn J.T., Krautwurst D., Schroeder J.E., Chen J.Y., Reed R.R. and Yau K.W. (1998) Functional co-assembly among subunits of cyclic-nucleotide-activated, nonselective cation channels, and across species from nematode to human. <i>Biophys J</i> , 74, 1333-45.	<input type="checkbox"/>
27	Firestein S., Darrow B. and Shepherd G.M. (1991) Activation of the sensory current in salamander olfactory receptor neurons depends on a G protein-mediated cAMP second messenger system. <i>Neuron</i> , 6, 825-35.	<input type="checkbox"/>
28	Fulle, H.J., Vassar, R., Foster, D.C., Yang, R.B., Axel, R. and Garbers, D.L. (1995) A receptor guanylyl cyclase expressed specifically in olfactory sensory neurons. <i>Proc Natl Acad Sci USA</i> 92, 3571-5.	<input type="checkbox"/>
29	Gaillard I., Rouquier S., Pin J.P., Mollard P., Richard S., Barnabe C., Demaille J. and Giorgi D. (2002) A single olfactory receptor specifically binds a set of odorant molecules. <i>Eur J Neurosci</i> , 15, 409-18.	<input type="checkbox"/>
30	Glusman G., Sosinsky A., Ben-Asher E., Avidan N., Sonkin D., Bahar A., Rosenthal A., Clifton S., Roe B., Ferraz C., Demaille J. and Lancet D. (2000) Sequence, structure, and evolution of a complete human olfactory receptor gene cluster. <i>Genomics</i> , 63, 227-45.	<input type="checkbox"/>
31	Gold, G.H. (1999) Controversial issues in vertebrate olfactory transduction. <i>Annu Rev Physiol</i> , 61, 857-71.	<input type="checkbox"/>
32	Grosch W. (2001) Evaluation of the key odorants of foods by dilution experiments, aroma models and omission. <i>Chem Senses</i> , 26, 533-45.	<input type="checkbox"/>
33	Hamana H., Hirono J., Kizumi M. and Sato T. (2003) Sensitivity-dependent Hierarchical Receptor Codes for Odors. <i>Chem Senses</i> . 28, 87-104.	<input type="checkbox"/>

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34	Hargrave P.A., Adamus G., Arendt A., McDowell J.H., Wang J., Szaby A., Curtis D. and Jackson R.W. (1986) Rhodopsin's amino terminus is a principal antigenic site. <i>Exp Eye Res.</i> 42, 363-73.	<input type="checkbox"/>
35	Jones D.T., Masters S.B., Bourne H.R. and Reed R.R. (1990) Biochemical characterization of three stimulatory GTP-binding proteins. The large and small forms of Gs and the olfactory-specific G-protein. <i>Golf. J Biol Chem</i> , 265, 2671-6.	<input type="checkbox"/>
36	Jones D.T. and Reed R.R. (1989) Golf: an olfactory neuron specific-G protein involved in odorant signal transduction. <i>Science</i> , 244, 790-5.	<input type="checkbox"/>
37	Juilfs D.M., Fulle H.J., Zhao A.Z., Houslay M.D., Garbers D.L. and Beavo J.A. (1997) A subset of olfactory neurons that selectively express cGMP-stimulated phosphodiesterase (PDE2) and guanylyl cyclase-D define a unique olfactory signal transduction pathway. <i>Proc Natl Acad Sci USA</i> 94, 3388-95.	<input type="checkbox"/>
38	Kawai F. (1999) Odorants suppress T- and L-type Ca2+ currents in olfactory receptor cells by shifting their inactivation curves to a negative voltage [In Process Citation]. <i>Neurosci Res</i> , 35, 253-63.	<input type="checkbox"/>
39	Krautwurst D., Yau K.W. and Reed R.R. (1998) Identification of ligands for olfactory receptors by functional expression of a receptor library. <i>Cell</i> , 95, 917-26.	<input type="checkbox"/>
40	Kurahashi J., Lowe G. and Gold G.H. (1994) Suppression of odorant responses by odorants in olfactory receptor cells. <i>Science</i> , 265, 118-20.	<input type="checkbox"/>
41	Lapidot X., Pilpel Y., Gilad Y., Falcovitz A., Sharon D., Haaf J. and Lancet D. (2001) Mouse-human orthology relationships in an olfactory receptor gene cluster. <i>Genomics</i> , 71, 296-306.	<input type="checkbox"/>
42	Leffingwell J.C. (2003) Chirality & Odour Perception -- Acyclic Terpenoid Odorants. http://www.leffingwell.com/chirality/acyclic_terpenoid.htm	<input type="checkbox"/>
43	Liu H.Y., Wenzel-Seifert K. and Seifert R. (2001) The olfactory G protein G(alphaolf) possesses a lower GDP-affinity and deactivates more rapidly than G(salphashort): consequences for receptor-coupling and adenylyl cyclase activation. <i>J Neurochem</i> , 78, 325-38.	<input type="checkbox"/>
44	Lucas K.A., Pitani G.M., Kazerounian S., Ruiz-Stewart I., Park J., Schultz S., Chepenik K.P. and Waldman S.A. (2000) Guanylyl cyclases and signaling by cyclic GMP. <i>Pharmacol Rev</i> , 52, 375-414.	<input type="checkbox"/>

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45	Ludwig J., Margalit J., Eismann E., Lancet D. and Kaupp U.B. (1990) Primary structure of cAMP-gated channel from bovine olfactory epithelium. FEBS Lett, 270, 24-9.	<input type="checkbox"/>
46	Malvi. and Shepherd G.M. (2000) Functional mosaic organization of mouse olfactory receptor neurons. Proc Natl Acad Sci USA, 97, 12869-74.	<input type="checkbox"/>
47	Malnic B., Hirono J., Sato T. and Buck L.B. (1999) Combinatorial receptor codes for odors. Cell, 96, 713-23.	<input type="checkbox"/>
48	Meyer M.R., Angele A., Kremmer E., Kaupp U.B. and Muller F. (2000) A cGMP-signaling pathway in a subset of olfactory neurons. Proc Natl Acad Sci USA, 97, 10595-600.	<input type="checkbox"/>
49	Mombaerts P. (1999) Molecular biology of odorant receptors in vertebrates. Annu Rev Neurosci, 22, 487-509.	<input type="checkbox"/>
50	Nakamura T. and Gold G.H. (1987) A cyclic nucleotide-gated conductance in olfactory receptor cilia. Nature, 325, 442-4.	<input type="checkbox"/>

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- ☒ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
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Signature	/Andrew N. Parfomak/	Date (YYYY-MM-DD)	2006-10-13
Name/Print	Andrew N. Parfomak	Registration Number	32431

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